

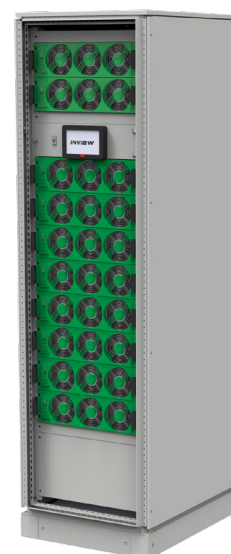
Hercules PCS Energy Booster and Backup For C&I Application

Power Conversion System for Local Energy Management

AC
3 x 400 Vac + N

DC
408 Vdc

Power
20 – 200 kW



Description

Hercules is a **bidirectional modular Power Conversion System (PCS)** made of several 20 kW building blocks. It can reach power levels up to 200 kW when assembling 10 converters in parallel.

The two AC ports and one DC port make it ready for **energy storage applications**. Indeed, Hercules's solution involves a **built-in Battery Management System (BMS)** compatible with different battery chemistries (lead, lithium, NiMH, NiCd). Moreover, it is also intended to **communicate with Energy Management Systems (EMS)**.

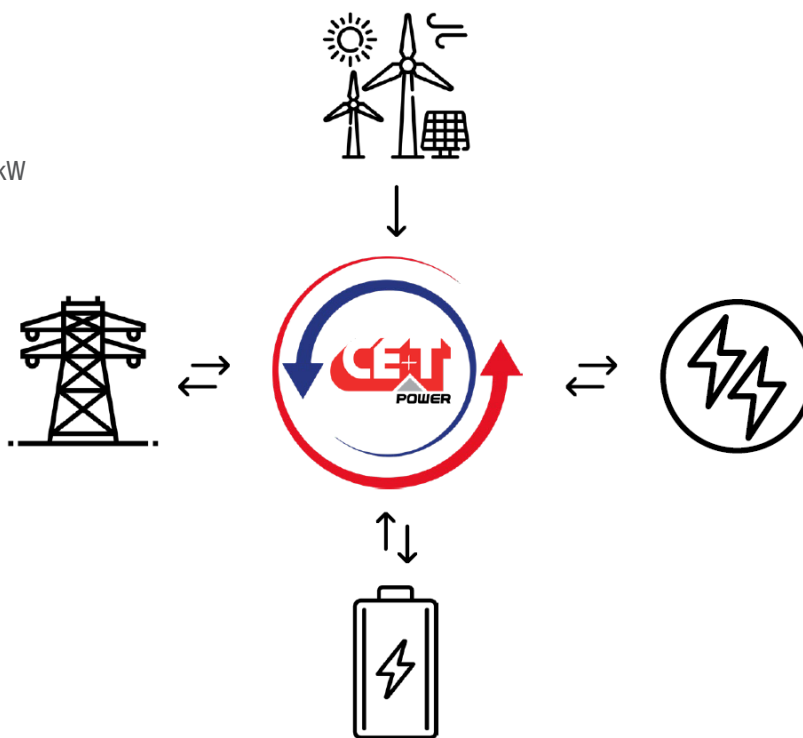
Applications

Hercules focus on **off-grid and grid-tied applications**. Paired with batteries, the Energy Storage System can optimize your energy bills through:

- Peak shaving
- Increase self-consumption
- Frequency Demand response
- Energy storage grid interactive up to 200 kVA/kW

Main Features

- Modularity
- Hot-pluggable
- Versatile charging
- Battery sustainability
- Harsh AC conditions
- High efficiency, certified by SGS
- Control and monitoring capabilities



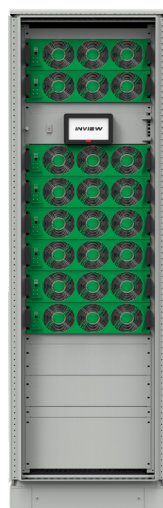
Hercules Standard Cabinets

General	Hercules 100	Hercules 160	Hercules 200
Vibration	GR63 office vibration 0 to 100Hz-0.1g / transport vibration 5 to 100Hz-0.5 g, 100 to 500Hz - 1.5g / Drop test		
Operating conditions	Designed for installation in an IP20 or IP21 environment. When installed in a dusty or corrosive environment, appropriate measures (air filtering, ...) must be taken.		
Altitude above sea without de-rating	1500m / Above 1500m : 0.8% de-rating per 100m		
Operating T° / Relative Humidity (RH) non-condensing	Tested according ETS300-019-2-3 Class 3.1 -20°C to 50°C, power de-rating from 35°C to 50°C / Max RH 95% for 96 hours per year		
Turn on delay	20 to 60 seconds, depending on the number of modules installed		
Power			
AC Input Specifications			
Maximum power (VA) / (W)	100 kVA / 100 kW	160 kVA / 160 kW	200 kVA / 200 kW
Nominal voltage (AC)	3 x 380V / 400V / 415V + Neutral 5 wires		
Voltage range (AC)	150 Vac to 270 Vac line to neutral (power derating below 220 Vac)		
Frequency range (selectable) / synchronization range	50 or 60 Hz / range 30 to 70 Hz adjustable		
Short circuit backfeed current per phase	53 A 20 ms - 38 A RMS ,15 s		
DC Battery Specifications			
Maximum power (W)	100 kW	160 kW	200 kW
Nominal voltage (DC)	-204 Vdc / 0 Vdc / +204 Vdc with the zero-voltage connected to AC neutral		
Voltage range (DC)	-170 Vdc to -245 Vdc / 0 Vdc / +170 Vdc to +245 Vdc		
Nominal current (at 408 Vdc)	255 A	408 A	511 A
Maximum input current (for 15 seconds) / voltage ripple	383 A / < 400 mVrms	613 A / < 400 mVrms	766 A / < 400 mVrms
AC Output Specifications			
Maximum power (VA) / (W)	100 kVA / 100 kW	160 kVA / 160 kW	200 kVA / 200 kW
Nominal voltage (AC)	3x380V / 400V / 415V + Neutral 5 wires		
Short time overload capacity (@PF 0.9)	150% - 15s 130% - 30s 120% - 60s 110% permanent		
Short circuit current on battery, per phase	217 A Rms for 15 sec.	348 A Rms for 15 sec.	435 A Rms for 15 sec.
Admissible load power factor	Full power rating from 0 inductive to 0 capacitive		
Frequency / frequency accuracy	50 - 60 Hz / 0.03 %		
Total harmonic distortion (resistive load)	< 1.5 %		
Nominal current per phase (In)	145 A	232 A	290 A
Crest factor at nominal power	2.1 : 1		
Signaling & Supervision			
Display	7" display included (rack mounting)		
Controller	Pegasus controller included		
Alarms output / Supervision	Dry contact on Pegasus controller / Modbus, CANBUS and SNMP via Pegasus controller		
Certificates & Approvals			
Safety / Grid Interactive	EN 62040-1-1 / Synergrid: C10-11, EN50549 (up to 240 kW)		
EMC (immunity)	EN 55022 (A), EN 61000-4-2/3/4/5/6/8		
Mechanical Specifications			
Dimensions (W x H x D mm)*	600 x 2100 x 800 mm	600 x 2100 x 800 mm	600 x 2100 x 800 mm
Numbers of cabinets	1	1	1
AC Connection / DC Connection	Nut and bolt on copper bar / Nut and bolt on copper bar, AC MCCB and DC fuse (optional may require extra cabinet)		
Anti-islanding relay	ZHIEL UFR1001E (optional)		

* Other cabinet heights on demand.



HERCULES 100



HERCULES 160



HERCULES 200

Hercules PCS Energy Booster and Backup - Datasheet - v1.0 Specifications can change without notice. New data will be updated on our website: www.cet-power.com.

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